

### **REMARKS**

This is in response to the Office Action dated December 29, 2008. Applicant has amended the application as set forth above. All the features of the amended claims are fully supported by the originally filed application and drawings. Thus, the amendments do not add new matter to the application. Upon the entry of the amendments, Claims 1-5 and 7 are pending in this application. Applicant respectfully requests the entry of the amendments and reconsideration of the application.

#### **Claim Rejections under 35 U.S.C. §112, 2nd**

The Examiner rejected Claims 4-7 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In response, Applicant has amended Claim 4 to meet the written description requirements and canceled Claim 6. Withdrawal of the rejection is respectfully requested.

#### **Claim Rejections under 35 U.S.C. §103**

The Examiner rejected Claims 1-7 under 35 U.S.C. §103(a) as being unpatentable over Blackburn '109 (US Patent 2,584,109) in view of Blackburn '110 (US Patent 2,584,110), Faessle (US Patent 4,541,471) and Nemeskeri (US Patent 6,918,753). Applicant respectfully disagrees with the Examiner.

#### **Claim 1 of Instant Application** (*Emphasis added*)

An apparatus for manufacturing ceramic ware, the apparatus comprising:  
a first mold housing and a second mold housing, each of which includes a housing frame, a wire net formed in the housing frame so as to support a mold, an air ejection tube fixed to the wire net and formed of fibroid material so as to eject the air toward the inside of the mold, and an air supply hole formed in the housing frame and connected to the air ejection tube so as to supply the air;

- a first support means for fixedly supporting the first mold housing;
- a second support means for fixedly supporting the second mold housing;
- a first drive means for moving up and down the first support means;

a second drive means for moving back and forth the second support means;  
an air supply means for providing the air to the air supply holes of the first and second mold housings; and

a control means for regulating the amount of the air, the air supply time, and the pressing intensity between the first and second mold housings,

wherein the control means is configured to start the air supply means the moment to eject the air into the mold creating an air film between a casting clay and the mold, wherein the air ejection tube is configured to allow free ejection of air from inside to the outside of the mold.

#### Claim 1 Not Obvious Over Cited References

The present invention is directed to an apparatus and method for manufacturing ceramic ware, in which an air ejection tube is fixed to a wire net so as to eject the air toward the inside of the mold creating an air film between a casting clay and the mold, and the air ejection tube is configured to allow free ejection of air from inside to the outside of the mold.

In contrast, Blackburn '109 discloses a mold and method for molding ceramic ware, in which the clay object is separated from the faces of the mold by the direct application of fluid pressure against the ware through a pressure conduit extending through a section of the mold to the surface thereof. (See col. 2, Lines 3-19)

However, there is a distinct difference in the structures and functions between Blackburn '109 and the present invention. In the present invention, an air ejection tube is fixed to a wire net so as to eject the air toward the inside of the mold creating an air film between a casting clay and the mold, and the air ejection tube is configured to allow free ejection of air from inside to the outside of the mold.

Furthermore, the apparatus according to the present invention comprises a control means configured to start the air supply means the moment to eject the air into the mold creating an air film between a casting clay and the mold. The casting clay is being compressed and cast when the air is ejected into the mold. The air is acting on the casting clay when the clay is forming.

In Blackburn '109, however, the direct application of fluid pressure against the ware is JUST for separating the clay object from the mold by pushing. The clay object is already made,

and Blackburn's mold or method intervenes the scene when the already-made clay object is to be separated from the faces of the mold by shrinkage inherent in the object upon losing its water of plasticity. (See col. 1, lines 7-10; it is about a prior art where Blackburn '109 tried to solve the problems)

Faessle discloses a pattern 7 lies in box-half 1a and is surrounded with a wire net 6 following the upper contour of the mold, on which a porous hose 2 is arranged in a coiled manner, whereas the wire net in the present invention is located at a distance of about 2~3 centimeters from the upper face (S) of the frame, and therefore rather flat. Also, Faessle does not cure the deficiency of Blackburn '109. That is, Faessle's process also takes care of the solidified molding material is removed by the introduction of compressed gas, in which again the compressed gas does not do anything in the process of casting, but in the process of removing after casting. (See Abstract, col. 2, lines 13-22; steps (b) and (c))

Nemeskeri discloses a dual-mold thermoforming press having a frame, but still does not cure the deficiencies of Blackburn '109 and Faessle, either. The air ejection tube is not just for removing the pressed product.

As discussed above, the wire net of the present invention is NOT taught or suggested by the cited references. The wire net of the present invention is rather flat and anchors the air ejection tube disposed in a plane (See Fig. 1).

Claim 3 of Instant Application (*Emphasis added*)

A method for manufacturing ceramic ware using the apparatus of claim 1, the method comprising:

- a step of preparing a lump of clay, wherein the clay is kneaded such that air bubbles are removed from the clay;

- a step of cutting the clay such that the clay is divided into slab clays of a suitable size for the mold housing;

- a step of inserting the slab clay into the mold housing;

- a step of pressing and casting the slab clay into a desired clay piece while continuously supplying the air inside the mold housing creating an air film between the clay and the mold;

- a step of drying the clay piece;

a step of decorating the clay piece, wherein the clay piece is engraved with a pattern, and wherein glaze material is applied to the clay piece; and  
a step of firing the clay piece.

For similar reasons of the above, Claim 3 is not obvious over the cited references. The underline features of the present invention were not taught or suggested by any of the cited references: the air is continuously supplied inside the mold housing creating an air film between the clay and the mold during pressing and casting the slab clay into a desired clay piece.

Claim 4 of Instant Application (*Emphasis added*)

The method of claim 3, further comprising:  
a step of fabricating prototype clay from suitable clay;  
a step of placing an overturned mold housing on the prototype clay;  
a step of pouring gypsum sludge into the mold housing;  
a step of supplying the air so as to produce voids in a gypsum mold, while the gypsum sludge is solidified into the gypsum mold; and  
a step of removing the prototype clay from the gypsum mold.

The voids are produced in a gypsum mold while the gypsum sludge is solidified into a gypsum mold, and such voids or the air supply holes are used to create the air film between the clay and the mold. This is NEVER taught or suggested by the cited references. In col. 2, lines 3-24, Faessle discloses again that the pattern is removed from the solidified mold. Always, the compressed gas was used to remove the pattern from the solidified mold, NOT for creating an air film between the pattern and the mold.

Claim 6 has been canceled without prejudice, and then used as a limitation to the independent Claim 3. The rejection to Claim 6 is now moot. Still, Applicant does not agree with the Examiner respectfully.

A fluid pressure such as air pressure is impressed immediately prior to release of the molding pressure upon a selected one of the conduits 23, where it is clear that there is no air film between the clay and the mold. Blackburn '109 just discloses that the air pressure is

impressed immediately prior to release of the molding pressure. Once again, the air pressure participates in releasing, but NOT in casting.

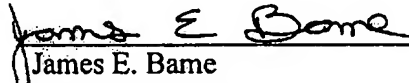
Therefore, Blackburn '109, Blackburn '110, Faessle, Nemeskeri, or their combination does not teach or suggest the inventive features of Claims 1-5 and 7. Withdrawal of the rejections to the Claims is respectfully requested.

#### Conclusion

In view of the amendments and remarks made above, it is respectfully submitted that Claims 1-5 and 7 are in condition for allowance, and such action is respectfully solicited, if required, under *Examiner's Amendment*. If it is believed that a telephone conversation would expedite the prosecution of the present application, or clarify matters with regard to its allowance, the Examiner is invited to contact the undersigned attorney at the number listed below.

Respectfully submitted,

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